

**Commonwealth of Kentucky**  
**Division for Air Quality**  
***PERMIT STATEMENT OF BASIS***

DRAFT

Conditional Major, Operating

Permit: F-08-014

Minova USA Inc.

Georgetown, KY 40324

Date May 12, 2008

Sajjad Quabili, Reviewer

SOURCE ID: 21-209-00017

AGENCY INTEREST: 3903

ACTIVITY: APE20080001

**SOURCE DESCRIPTION:**

The Georgetown facility of Minova USA Incorporated located at 150 Carley Court, Georgetown, Kentucky 40324, houses its cement grout manufacturing plant. The facility manufactures a polyester based mastic and a benzoyl peroxide based paste. The air pollutants from this source are volatile organic compounds (VOCs), particulate matter (PM/PM<sub>10</sub>), and a hazardous air pollutant (HAP) emit during the mixing and blending, conveying and storing operations. On February 26, 2008, Minova applied to the Division to renew their Conditional Major permit (F-02-004 R1).

The source-wide potential to emit of styrene, a hazardous air pollutant is greater than 10 tons per year; therefore, the source is potentially a major source under 401 KAR 52:020, *Title V Permits*. Minova requested to take a limit on the source-wide emissions of styrene to less than Title V major source threshold. The source will be issued a Conditional Major operating permit pursuant to 401 KAR 52:030, *Federally Enforceable Permits for Non-major Sources*.

**COMMENTS:**

Minova operates the following five emission points at their facility:

- **EP 01** Polyester Resin Cartridge Production (Mixing operation):  
Consists of four mastic mixers, two catalyst past mixers, a bulk powder conveying system and a drum filling station.
- **EP 02** Cement Grout Production:  
Consists of three powder blender and a liquid mixer.
- **EP 03** Two Limestone Handling Systems:  
Consists of limestone handling systems.
- **EP 13** Air Sealant Production  
Two liquid mixers and a clay silo.
- **EP 14** Slag Bulk Handling System

***VOC emissions:***

The potential to emit VOCs is 30.82 tons per year. No control equipment will be utilized for the VOC emissions. The facility is potentially a minor source for VOC emissions. No permit condition is added for VOC emissions in the permit.

***HAP emissions:***

Styrene is emitted from EP 01 at the machine points MP 01, MP 02, MP 03 and MP 04 during the mixing operation of mastic production. Styrene is also emitted from MP 13 of emission point (EP 02) during mixing operation of the liquid paste production. No control equipment is utilized for above mentioned styrene emissions. The actual styrene emission for the source was 2.7 tons for the year 2007.

The source wide potential to emit styrene is 29.57 tons per year, above the 401 KAR 52:020, Title V threshold. The source has voluntarily accepted an emission limitation of 9 tons during any consecutive 12 month period for styrene to preclude the applicability of 401 KAR 52:020, Title V permit.

***Styrene Emission Factors:***

On March 16, 1995 Minova conducted a monitoring test on an exhaust fan located in the cartridge production area to determine hourly styrene emission rate during the maximum mastic production.

The monitoring test concluded that styrene emission rate was directly proportional to the mastic being produced. Styrene emission factors were derived from the test data as follow:

$$EF_1 = (5.720 \text{ lbs of styrene emitted}) / (15,500 \text{ mastic produced}) \\ = 0.000369 \text{ lb of styrene emitted / pound of mastic produced.}$$

Where,  $EF_1$  = Styrene emission factor for mastic production

Similarly,

$$EF_2 = (1.031 \text{ lbs of styrene emitted}) / (755 \text{ liquid mastic produced}) \\ = 0.001366 \text{ lb of styrene emitted / pound of liquid mastic produced.}$$

Where,  $EF_2$  = Styrene emission factor for liquid mix mastic production

***PM emissions:***

PM/PM<sub>10</sub> emissions are generated during the blending and mixing operations. PM/PM<sub>10</sub> emissions also are generated at the conveying and storing operations of the raw materials. Baghouses are utilized to collect dust from EP 01, EP 02, EP 03, EP 13 and EP 14 to control particulate emissions.

***Dust Collector Efficiency:***

Minova USA Inc. operates a polyester resins cartridge production facility located in Bluefield, West Virginia in which the polyester resin cartridge production facility and its associated dust collectors are essentially identical to the Georgetown, Kentucky facility. A monitoring test was performed in September, 1998 for the Minova's West Virginia facility. Dust collector efficiency was determined to be 99.8%. The efficiency of the dust collector of each emission point is assumed to be 99.8% for the Minova's Kentucky facility. In addition to these dust collectors, self contained cartridge vent filters are utilized to control particulates for EP 13 and EP 14.

**PERIODIC MONITORING:**

Compliance with annual emission limitations will be ensured by monitoring, record keeping and reporting specified in the permit. The Division is requiring the source to keep monthly records of usage of paintings and solvents at each of the spray booths. The source shall also keep records of the monthly and the twelve months rolling total for styrene (HAP) emissions.

The Division is requiring the source to maintain a log of the pressure drop readings across

the particulate filters and the baghouse, including the time, date, identity of the personnel maintaining the log, the dates of filters and fabric bags replacements.

**CREDIBLE EVIDENCE:**

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.